

This schematic diagram illustrates a chemical process system featuring two parallel reaction vessels (10 and 20) and a central distillation column (12). The system includes various control loops and instrumentation:

- Reaction Vessels:**
 - Reaction Vessel 10:** Includes a stirrer (5), a cooling/heating jacket (3), and a reboiler (6). It is equipped with a temperature sensor (TE 1) and a pressure sensor (PSI).
 - Reaction Vessel 20:** Includes a stirrer (52), a cooling/heating jacket (35), and a reboiler (33). It is equipped with a temperature sensor (TE 2) and a pressure sensor (PSI).
- Distillation Column 12:**
 - Includes a condenser (25) and a reboiler (28).
 - Equipped with a liquid level sensor (LIC 1) and a temperature sensor (TE 3).
 - Has a control valve (CV-2) on its feed line.
- Control System:**
 - PIC 1 and PIC 2:** Process controllers for the reaction vessels.
 - TIC 1 and TIC 2:** Temperature Indication Controllers for the reaction vessels.
 - PT 1 and PT 2:** Pressure Transmitters.
 - VB:** Valve Block indicators.
 - SP:** Setpoint input.
- Flow and Piping:**
 - Feed streams (40 and 43) enter the reaction vessels.
 - Product streams (44 and 45) exit the reaction vessels.
 - Distillate (46) and bottoms (47) exit the distillation column.
 - Intermediate streams (27, 29, 31, 36) connect the vessels and column.